

EMPLOYEE TRAINING

RIGHT OF WAY MAINTENANCE



Photo courtesy of MN DNR

...including mowing!

YOU HELP PROTECT OUR WATER

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CLEAN
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protects..

THE PROBLEM

- Vegetation that is not maintained along roadsides can result in:
 - Safety hazards
 - Eroded roadsides
 - Spread of invasive plants
 - Degradation of water quality



Photo from USGS

THE SOLUTION

- Safety is priority when managing roadside vegetation
- Properly managing roadside vegetation helps to:
 - Improve storm water infiltration
 - Control erosion
 - Mitigate the spread of invasive plants

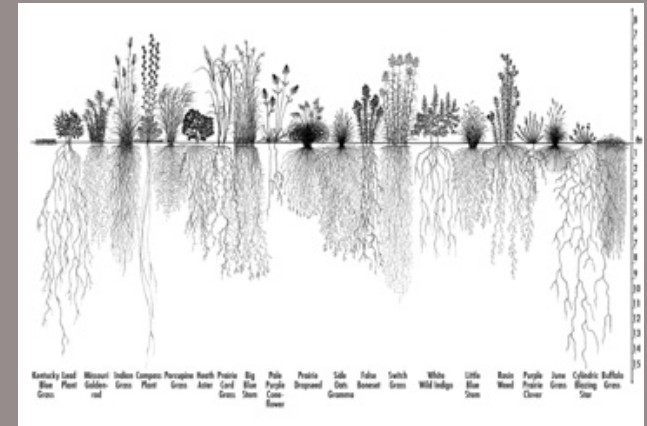


Photo from Xerces.org

TIP #1 - USE NATIVE PLANTS

Native plants and grasses are well suited for roadsides since they are adapted to local growing conditions.

- They thrive in poor subsoil in post construction areas
- They also have deep roots for surviving drought, to compete with weeds, and preventing erosion.
- Native plants and grasses also require little-to-no watering, mowing, fertilizing, or pesticides.
- Native plants and grasses stand up in winter under the weight of snow and help keep snow off the roadways. This is helpful in reducing snowdrifts, which reduces plowing and salting activities.



Using native plants, grasses, and wildflowers in ditches can help prevent costs of physical cleaning, erosion, and the spread of invasive species.

TIP #2 – MAINTAIN NATIVES

Invasive plant species can overtake native vegetation and agricultural land, create monocultures, and are expensive to mitigate once established. Roads are the main artery in which invasive plants are spread.



Prevent the spread of invasive plants:

Evaluate each road project to determine if an invasive species is present

- Always re-vegetate areas after construction
- Clean all equipment thoroughly before mowing a new site, even if it is on the same road
- Use certified weed-free sources of material
- Determine a treatment plan for if invasives are encountered

TIP #2 – CONTROL INVASIVES

- Physical control: mowing
 - Identify plant species before, as some invasives spread faster once mowed
 - Time it so that the weeds have not yet gone to seed
- Physical Control: burning
 - Identify and follow all local burning ordinances
- Chemical control: can selectively control broadleaf plants
 - Identify target species and use the appropriate chemical
 - Minimize exposure of pesticides to people, wildlife and environment
 - Follow all instructions for proper dosage and application; excess chemical can be washed away in runoff and pollute lakes and rivers
- Cultural control: Insect or pathogens (i.e. beetles)



Source: MnDOT

TIP #3 – REDUCE EROSION

Without vegetative cover along roadsides, soil erosion can significantly impact the environment:

- Storm water runoff washes sediment, fertilizers, and pesticides into waterways.
- Nitrogen and phosphorus carried by runoff into waterways are associated with many environmental problems, including excessive algae growth, depletion of the water's oxygen supply, and suffocation of aquatic organisms.
- Groundwater areas are not recharged.
- It removes valuable topsoil and clogs waterways and reservoirs with sediment.
- Excess runoff contributes to flooding problems in downstream areas.

TIP #3 – REDUCE EROSION



Preventing erosion: Besides planting native vegetation with deep roots, additional structural controls can be implemented to help prevent erosion:

- Build terraces or a retaining wall. These catch runoff, giving water time to soak into the ground and also make attractive planting beds.
- Slope terraces by about two percent perpendicular to the incline to direct drainage to one side or the other.

TIP #4 – MOWING

Recommended mowing practices that promote environmental stewardship include:

- Establish mowing frequency for each area (i.e., Frequently Mowed Zone, Annually Mowed Zone, No-Mow Zone).
- Areas that are managed for wildflowers should not be mowed more than once per year.
- Mowing is restricted or prohibited around habitats for threatened or endangered.
- Identify environmentally sensitive areas such as wetlands, nesting times for local wildlife, etc., that are not to be mowed. Install markers around these areas.



Photo courtesy of Anne Arundel County, MD

TIP #4 – MOWING

Recommended mowing practices that promote environmental stewardship include: *continued...*

- A minimum buffer of unmowed area should be left along the edge of all streams and wetlands. This provides a filter to prevent pollutants such as fertilizer, pesticides, and animal waste from directly entering the water. The exact width of the buffer should be determined using slope, soil type, and the intended use of the waterway.
- Set mower height to a minimum of three inches for optimum turf health, steep slopes, aesthetics, etc. Lawns mowed at a lower height cause weeds and invasive plants to grow. Maintain highest mower height possible.
- Mow a buffer up to eight feet along a roadside and leave remaining vegetation grow naturally. To discourage large weeds, shrubbery, or invasive trees, mow entire area once per year.

QUIZ TIME

1. Properly managed roadside vegetation can do 3 things:

Answer: Promote storm water infiltration, reduce erosion and prevent the spread of noxious weeds

2. Native vegetation is preferred for roadsides. True or False?

Answer: True, they have deep roots and outcompete weeds.

3. Lawn mowers should be set to a minimum height of ___ inches.

Answer: 3 inches

4. Two types of physical control for invasive plants include:

Answer: Mowing and Burning

THANKS FOR HELPING TO PROTECT OUR WATER RESOURCES!



Resources: Southeast Michigan Council of Governments
Minnesota Department of Transportation